What is claimed is:

1. A method for distributing stream data based on a multi-path scheme using Transmission Control Protocol (TCP), the method comprising the steps of:

a) requesting an input unit to transmit stream data;

b) receiving the stream data generated in the input unit based on TCP scheme;

c) assigning the received stream data to a specific channel;

d) confirming a relay that requests stream data transmission of the specific channel;

e) transmitting the stream data to one or more relays that request stream data transmission of the specific channel according to transmission control information of a controller; and

f) receiving the stream data of the specific channel from one of neighboring relays.

2. The method as recited in claim 1, further comprising the steps of:

g) confirming that the stream data generated in the input unit are not transmitted; and

h) requesting neighboring relays to transmit the stream data of the specific channel.

3. The method as recited in claim 1, further comprising the steps of:

i) receiving the stream data generated in the input unit from a plurality of relays; and

j) releasing a connection with other relays except a neighboring relay with the fastest transmission rate among the relays according to transmission control information of the controller.

4. The method as recited in claim 1, further comprising the steps of:

k) receiving a request for the stream data transmission of the specific channel from a player; and

l) transmitting the stream data to one or more players that make a request to transmit the stream data of the

5   specific channel based on the TCP scheme according to transmission control information of a controller.

5. The method as recited in claim 1, wherein in the step d), an internet address of the relay that makes a

10 request to transmit the stream data to the specific channel is confirmed using a routing table storing information of the one or more relays that make a request to transmit the stream data of the specific channel.

15 6. The method as recited in claim 1, wherein the input unit compresses moving picture data provided by a contents provider and generates stream data in form of a frame pack including frames and header information of the compressed moving picture data.

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7. The method as recited in claim 1, wherein the controller provides the transmission control information such as changing a path, dividing a channel or merging channels to the relay based on the TCP scheme while

25 monitoring the bit rate of the stream data and the network states.

8. A computer-readable recording medium for recording a program that implements a method for distributing stream

30 data based on a multi-path scheme using Transmission Control Protocol (TCP) in a video-on-demand (VOD) system provided with a processor, the method comprising the steps of:

a) requesting an input unit to transmit stream data;

35 b) receiving the stream data generated in the input unit based on TCP scheme;

c) assigning the received stream data to a specific

channel;

d) confirming a relay that makes a request to transmit stream data to the specific channel;

e) transmitting the stream data to one or more relays that request stream data transmission of the specific channel according to transmission control information of a controller; and

f) receiving the stream data of the specific channel from one of neighboring relays.

9. The computer-readable recording medium as recited in claim 8, the method further comprising the steps of:

g) confirming that the stream data generated in the input unit are not transmitted; and

h) requesting neighboring relays to transmit the stream data of the specific channel.

10. The computer-readable recording medium as recited in claim 8, the method further comprising the steps of:

i) receiving the stream data generated in the input unit from a plurality of relays; and

j) releasing connections with other relays except a neighboring relay with the fastest transmission rate among the relays according to transmission control information of the controller.

11. The computer-readable recording medium as recited in claim 8, the method further comprising the steps of:

k) receiving a request of the stream data transmission to the specific channel from a player; and

l) transmitting the stream data to one or more players that make a request to transmit the stream data of the specific channel based on TCP scheme according to transmission control information of a controller.